# COUNTERMEASURE COUNTERMEASURE

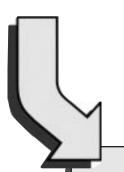
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n the past 2 years, 84 Army Motor Vehicle (AMV) accidents involving convoys have been reported to the U.S. Army Safety Center. These accidents have resulted in 13 fatalities and 83 injuries with a cost to the Army of \$4.6 million. Although this is significantly lower than 3 years ago, human-performance errors have increased. In July of 1996, Countermeasure reported, in an article titled Convoy, the top three accident causes as speeding, following too close (improper interval), and fatigue, in order of frequency. This year following too close has jumped to the top of the list.



To protect yourself, monitor the space that is around the vehicle. When things go wrong, this space provides time to think and act. You have to manage this space if you expect to have it when something goes wrong. This is especially true when operating large vehicles. They need more room and require more space for stopping and turning. Of significant

# Risk management pointer

ase your interval on the largest vehicle in the convoy. If your convoy composition never changes, then you can integrate a standard interval and speed into unit SOPs. There are always exceptions and leaders need to to know when and if adjustments are needed. Prior Planning Prevents Poor Performance.

importance is the area in front of your vehicle – the space you are entering. You must maintain enough space to stop in the event the vehicle in front of you stops suddenly. Misjudging that distance can lead to a "following too close" accident. Remember, smaller vehicles can stop

faster than larger vehicles. For more information on managing space, see *TC* 21-305, (*Training Program for Wheeled Vehicle Accident Avoidance*) and FM 21-305 (*Manual for the Wheeled Vehicle Operator*).

How much space should I keep in front of me? At speeds below 40 MPH, keep at least 1 second for each 10 feet of vehicle length. For vehicles less than 20 feet 2 seconds is the minimum safe distance. Add one second for each 10 MPH increment over 40 MPH. For example, if you are driving at a speed below 40 MPH in a 40-foot vehicle, you should have 4 seconds between you and the vehicle ahead; in a 60-foot vehicle, 6 seconds. If the 40-foot vehicle is moving at 50 MPH, then it requires 5 seconds; for a 60-foot vehicle, traveling at 50 MPH, 7 seconds. (See poster on Safe Distances in this issue) ref; FM 21-305, (Manual For The Wheeled Vehicle Driver), Chapter 24 page 24-1. See also the newly revised FM 55-30 (Army Motor Transport Units and

*Operations*) dated 27 June 1997 for more information on control, organization and planning a convoy operation.

Chapter 5 of FM 55-30, (Convoy Control, Organization, and Planning) will aid commanders and leaders in identifying and completing all of the tasks required to control, organize, and plan a convoy movement.

#### **CONVOY COMMANDERS**

Each convoy is organized under the control of a convoy commander who must be free to supervise the movement of the convoy. the convoy commander's location is determined by METT-T. Convoy commanders should not change their location within the convoy unless it is absolutely necessary for control. They should have radio contact with all subordinate serial commanders during the movement. The convoy should maximize use of radio communications if the mission allows. At a minimum the lead and trail vehicles in each serial and each march unit should have radio communications.

# SERIAL OR MARCH UNIT COMMANDERS

Serial or march unit commanders are also positioned by METT-T. They must be in a position where they can best control their convoy element. It is not recommended that they are the lead vehicle, because it reduces their ability to control the other vehicles. Vehicles are easier to control from the rear. From there, commanders can monitor vehicles that may pull over due to mechanical failures. They can also ensure that the personnel or cargo loaded in broken down vehicles is cross loaded. If the march unit is held up, commanders can move up to the source of trouble and make the necessary adjustments. If the commander is the lead vehicle, he/she may not notice the loss of another vehicle. Commanders should not position their vehicles as the last vehicle either. Each convoy plan should plan for breakdowns and everyone should know the actions to be taken in the event of a breakdown or break in contact.

**NOTE:** Convoy, serial, and march unit commanders should avoid driving in the left-hand or "fast" lane of a multilane road. The slower speeds of military

traffic causes a hazard to faster moving civilian traffic.

#### **PACESETTER**

The convoy commander will designate a vehicle to lead the convoy. The lead vehicle or pacesetter will travel at a designated speed to accommodate the slowest vehicle restriction in the convoy. The lead vehicle or pacesetter will—

- Set and maintain the pace established by the convoy commander.
- Check the time at start point, critical point, checkpoints, and release points.
- Advise the convoy commander of any obstacles or road hazards (road blocks, washouts, or any other obstacles) that may cause a deviation from the established route.
- Slow the convoy speed in preparation for exits, highway entrances and tunnels.

# NCOs enforce standards

oncommissioned Officers are the closest to the everyday business that goes on in the Army. NCOs enforce standards. A task or mission performed to standard will be successful. In some cases, accidents happen as a result of NCOs who fail to enforce standards. Recently, a unit was given the mission to convoy from their installation to another post (approximately 70 miles). The convoy consisted of one HMMWV, one 2½-ton, and five 5-ton vehicles. "Hey, Joe let's go," replaced the required convoy safety briefing. The convoy commander (NCO) decided to lead the convoy over a heavily populated highway in a POV. The convoy commander told the soldiers in the convoy to meet at the dining facility located at the other post. At the dinning facility, they met with the convoy commander and then continued on to a field site. While enroute, the operator of an M923A2, 5-ton cargo, attempted to negotiate a curve at 45 MPH. As a result of the excessive speed, the driver lost control of the vehicle. The vehicle overturned at least once, causing extensive damage to the vehicle and simultaneously ejecting the unrestrained



driver and both passengers. The driver sustained only minor injuries; however, both passengers were fatally injured.

#### **RISK MANAGEMENT FAILURES:**

- The convoy commander failed to adequately plan the convoy operation. Hazards and controls were not identified and a briefing was not conducted.
- The convoy commander did not supervise and control the convoy.
- The driver was not properly trained on the vehicle.
- None of the vehicle occupants were wearing seatbelts.

The driver was not aware of **the** 40 MPH speed restriction for the M939 series vehicles.

The convoy commander did not establish and enforce a maximum safe operating speed that accommodated the maximum speed limit of the M939 series 5-ton vehicles that were in the convoy.

### **CONTROLS:**

Commanders should ensure that the risk-management process is applied to all convoy operations and that convoy commanders are carefully selected and thoroughly briefed on their duties and responsibilities; see *FM 55*-

30(Army Motor Transport Units and Operations), and FM 21-305 (Manual for the Wheeled Vehicle Operator).

### **CONVOY COMMANDERS WILL:**

- Have knowledge of all restrictions required by Ground Precautionary Messages, Safety of Use Messages, Safety Alert Messages, etc., for vehicles in the convoy, for example: *TACOM GPM 96-04*, which limits the M939 Series vehicles to 40 MPH. (GPM's and SOUM's can now be found on the Internet at http://www-ssn.ria.army.mil)
- Ensure that special attention is placed on seatbelt use and that speed restrictions are briefed.
- Ensure troops are briefed on convoy speed, catch-up speed, following distance, etc.
- Ensure all drivers are properly licensed on vehicles.
- Ensure control is established and maintained within the convoy until mission is complete.

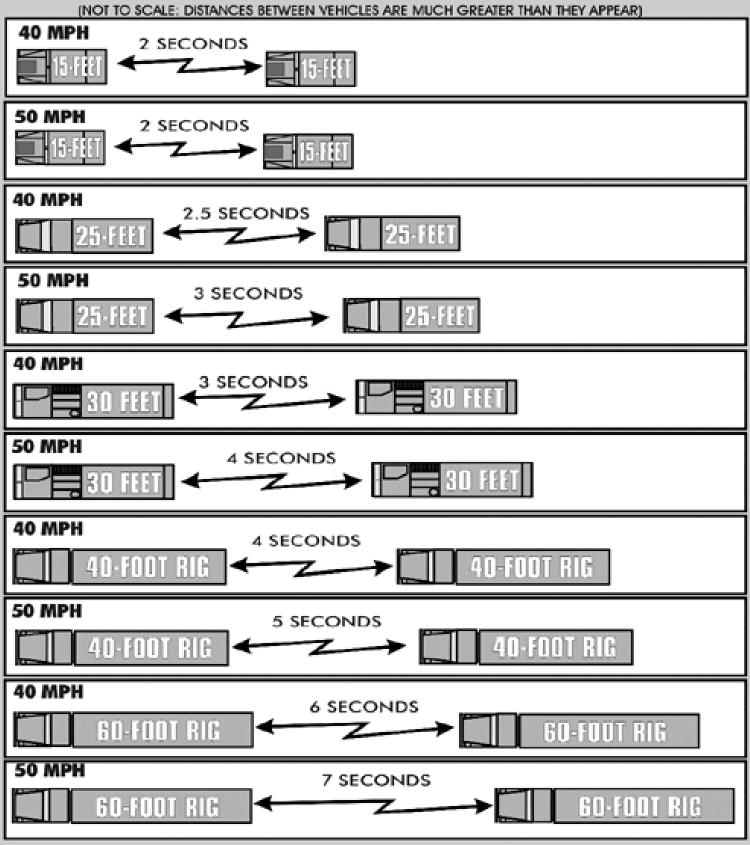
A convoy checklist such as the one shown on the poster in this publication, will assist the convoy commanders planning and execution.

POC: SFC John Dawson, Transportation NCO, DSN 558-2933 (334-255-2933), Force Projection Branch



This M923A2 5-ton overturned while attempting to negotiate a curve at 45 MPH. The two passengers were killed.

# SAFE DISTANCES TO MAINTAIN WHEN DRIVING AMVS AT 40 AND 50 MILES PER HOUR



This diagram represents only the minimum safe following distances. Environmental conditions and vehicle payload greatly impacts following distances. Refer to FM 21-305, FM 55-15, and appropriate TCs and TMs for guidance on individual vehicles.

NOTE: The minimum safe following distance for any vehicle is 2 seconds.

# Convoy Checklist

ARs 55-29,385-55, and 600-55 and FMs 21-305,21-306, and 55-30 provide guidance in convoy operations. In addition, use the checklist below to manage the risks associated with convoy operations. 1. Do tactical vehicle drivers have a valid Government Motor Vehicle Operator's Identification Card. Optional Form (OF) 3467 2. Have drivers been trained to drive in adverse weather (ice, snow, foo, rain) and difficult terrain? Blackout drive? NVGs? 3. Are convoy drivers provided 8 consecutive hours rest for each 10 continuous hours of driving a tactical vehicle within a 24-hour time period? 4. Do convoy commanders brief all drivers' assistant drivers, and senior occupants prior to the march on hazardous areas or conditions to be encountered (e.g., safe following distances, proper speed, route rest periods, and signals)? 5. Do drivers keep proper distances between vehicles? 6. Do drivers reduce speed during conditions of reduced visibility and adverse weather? 7. Do drivers perform before-, during-, and after-operation preventive maintenance? 8. Do drivers know the meaning of traffic-control signs, signals, devices, and markings used by civilian. and military police? 9. Do all drivers know route? 10. Are vehicle basic-issue items, pioneer tools, highway warning devices, and fire extinguishers present. on every wheeled corvoy vehicle? 11. Are drivers of bulk-fuel transcorters instructed on emergency procedures for fuel leaks? 12. Are vehicles that transport hazardous materials or dangerous cargo (e.g., ammunition, gasoline. flammable liquids)- Appropriately posted with placards and loaded to meet hazard classification and compatibility. п requirements? b.Inspected using DA Form 626: Motor Vehicle Inspection? п c. Equipped with two fire extinguishers appropriate for the cargo? 13. Are ammunition and POL cargo transported separately? 14. Do vehicles carrying hazardous cargo have assistant drivers? 15. When operating on paved roads, are radio whip antennas tied down to not less than 7 feet from the ground and antenna tips covered with protective balls? 16. Are service drive lights used at all times on paved public roads (blackout drive prohibited)? 17. When transporting personnel, do drivers- Walk to rear of the vehicle before starting to secure the tailgate and safety strap and ensure all passengers are seated? Adjust the targaulin to ensure proper ventilation (i.e., lash down the targaulin and front ourtain in adverse weather, roll tarpaulin and secure at bar too in good weather?? c. Secure baccage and other loads safety and not in the way of passengers? d. Prohibit personnel from riding on outside of wheeled and tracked vehicles? e. Ensure that all occupants use restraint systems when available?  $\Box$ 18. Is the rear vehicle the largest and a nonpassenger-carrying vehicle? 19. Are ground guides used IAW AR385-55, FM 21-305 & unit SOPs? 20. Are rotating and flashing amber lights and convoy flags used on the first and last vehicles in the convoy? 21. Are vehicles marked in accordance with AR 385-55 and FM 50-30?

# What you need to know if your car catches fire

hen people talk about the problem of fires in the United States, they are usually referring to fires in buildings. They probably don't realize that one of every five fires involves a motor vehicle, and that one out of eight fire fatalities, occur in motor vehicles. According to the United States Fire Administration, 600 people are killed in car fires each year. Also 3,800 people are injured — 1,200 of those are firefighters.

Fires in motor vehicles can produce toxic gases. Automobiles, trucks and other motor vehicles are made of many synthetic materials that emit harmful — if not deadly — gases when they burn. A main by-product of fires is carbon monoxide, an odorless, colorless, and tasteless gas that kills when present in high concentration.

A vehicle fire can generate heat upwards of 1,500°F. Keep in mind that water boils at 212°F, and that most foods are cooked at temperatures less than 500°F. Flames from burning vehicles can often shoot out distances of 10 feet or more.

Parts of the vehicle can burst because of heat, shooting debris great distances. Bumper and hatchback-door struts, two-piece tire rims, magnesium rims, drive shafts, grease seals, axles, and engine parts all can become lethal shrapnel.

Although a relatively rare happening, gas tanks of motor vehicles can rupture and spray flammable fuel, a serious hazard. In even more extraordinary instances, gas tanks have been known to explode. Hazardous materials such as battery acid can injure even with out burning.

Vehicle fires are so dangerous that firefighters wear full protective, fire resistant equipment and self-contained breathing apparatus. Firefighters also have the ability to quickly put out vehicle fires with large amounts of water or other extinguishing agents. You don't have these advantages, so use Risk Management when deciding to fight a motor vehicle fire.

Here are some of the things you should do if your vehicle catches fire:

- Get yourself and all others out of and away from the vehicle. If it is in a garage or any other structure, exit immediately.
- After you are a safe distance away from the vehicle, call 911 or your local emergency-telephone number and report the location and type of fire.

- Remain away from the vehicle. Do not try to go back into a burning vehicle to retrieve belongings.
- Never put yourself in danger using a fire extinguisher. If you use a fire extinguisher, only do so from a safe distance and always have a means to get away.
- Use a fire extinguisher approved for class "B" and class "C" fires.
- Do not open the hood or trunk if you suspect a fire under it. Air could rush in, enlarging the fire

Fires in tactical vehicles can be dangerous as well. Unlike POV fires, tactical vehicle fires require an approach that is a little different. There are a few standard procedures that should be addressed when dealing with tactical vehicle fires:

- Stop the vehicle immediately.
- Follow the egress procedures as outlined in the appropriate technical manual.
- Get the hand-held fire extinguisher before dismounting vehicle.
- Activate automatic fire suppression system, if applicable.
- Move a safe distance from vehicle.
- Account for all vehicle occupants.
- Attempt to extinguish fire if possible.

Remember that the safety of personnel is the first requirement when dealing with vehicle fires. Attempts to minimize property damage should be second priority.

To determine the emergency procedure for your specific equipment, refer to its technical manual or to the unit standing operating procedures (SOP). If the TM does not address egress procedures for fires, submit a *DA* 2028-2 (*Recommended Changes to Equipment Technical Publications*), to the appropriate MACOM. In addition, the unit SOP should address egress procedures and how frequently they should be practiced. If your SOP does not address emergency procedures, address the issue to the chain-of-command.

One example of emergency procedures for a tactical vehicle fire can be found in the technical manual for the M1A2 Abrams Tank, *TM* 9-2350-288-10-2, change 4, dated February 1995, pages 2-894 through 2-899.

-adapted from Safetyline Magazine

# Risk management highway

# Force protection can be risky business

he Commandant of Cadets at the United States Military Academy has implemented a new and innovative approach to educate young people on responsible attitudes toward alcohol consumption. In the development of the program, he also enlisted the assistance of the student-run Alcohol and Drug Dependency Intervention Council (ADDIC). The program places the responsibility for mature behavior directly onto the individual and takes steps to define what that responsibility entails. I believe this approach has a more universal application than just to the Corps of Cadets. It applies to an age group – an age group which contains officers, cadets, NCOs, soldiers, and civilians

Studies show that alcohol is a factor in most serious incidents which involve young people. Alcohol consumption is the number one Force Protection issue facing young adults (18-25 year olds) in the peacetime Army. Irresponsible consumption of alcohol has a detrimental impact on the combat potential of the Force as it affects not only the individual, but also the cohesion and discipline of units. Abuse can have fatal to near-fatal consequences, ruin promising careers, reduce leader credibility, and create long-term health risks. We have also noted that the values of integrity and respect for others (known at West Point as Bedrock Values I and II) are most often violated by those with impaired judgment. All these things are frequently preached to our soldiers; however, we often find that some decide to gamble away their futures without taking steps to mitigate the risks inherent in alcohol consumption.

There also exists the problem of underage drinking. Many consider alcohol the "forbidden fruit," and therefore are tempted to partake. Prevailing attitudes consider underage drinking as an OK thing to do, that it is nothing more than a mere "traffic ticket" type of offense, condoned with a nod and a wink by those of legal age who provided the alcohol to them. But the fact remains that underage drinking, as well as providing alcohol to minors, is against the law in all 50 States. And it is well-known that the legal

age of consumption is 21 years of age. Sure, there are exceptions which can be made on military installations; however, our lawmakers believe that the decision to drink requires greater maturity than it takes to get a driver's license, join the Armed forces, or vote.

Attitudes are difficult to change, especially among energetic, invulnerable young people. The Commandant's approach was to start with making cadets understand why people drink. I think you'll be able to relate to most of the reasons listed below, but they do not provide sufficient rationale for irresponsible behavior.

- \* Escapism medicate emotional pain; get smashed and blow off some steam
- \* **Relational** meet people and possibly meet that "special someone"
- \* Pleasure and Celebration catch a buzz; celebrate the birthday or achievement
- \* **Sociability** be accepted as part of the incrowd; reduce inhibitions
- \* **Tension Reduction** relax; calm your nerves after a challenging day

After some research, we discovered that Army policies and regulations do not provide a concise definition of Responsible Drinking or an ethic by which soldiers are supposed to conduct themselves. There are some do's and don'ts discussed; but mostly they discuss administrative and punitive actions to take once an alcohol-related incident occurs. Therefore, we developed the following as a definition of responsible drinking:

A responsible relationship with alcohol is defined by a range of behaviors from abstinence on the one hand, to moderate consumption. Responsible drinking is the result of a conscious decision to consume alcohol under safe, legal, and authorized conditions wherein one maintains control over his or her own behavior.

The next step was to define an Army ethic for responsible consumption. As a technique to shape cadet attitudes, we developed a program under the catch phrase "RISKY BUSINESS" to capture Army and societal norms concerning alcohol usage. The phrase serves as more than just catchy rhetoric as it emphasizes responsible behavior and recognizes that there is an element of risk inherent in a soldier's decision to drink.

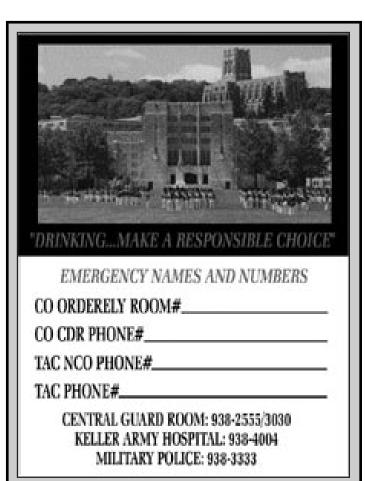
Therefore, in line with the Army's risk management program, we would expect cadets or soldiers to make a risk assessment and implement appropriate controls to ensure that consumption will be conducted under safe, legal, and authorized conditions, while maintaining control over their own behavior. Wallet-sized fold-over cards were produced and given to the cadets like the ones shown here, which highlight the salient points of the RISKY BUSINESS program. The cards also serve as an emergency data card so cadets can call someone as an alternative to turning an already risky situation into something entirely irresponsible, or worse . . . deadly.

Implementation was accomplished through a formal Chain Teaching methodology which highlights the development of a healthy relationship with alcohol. The classes were conducted by the cadet chain of command from the Brigade down to the Platoon level. We believed this was the most effective method because we wanted the cadets to accept ownership of the program from both the "living it" and enforcement perspective. After cadets received training, they signed briefing certificates which serve as an acknowledgment that they understand the State and local laws, Academy policies, and their own responsibilities regarding alcohol consumption. The statement is non-binding; but is similar to what we have soldiers do to acknowledge their responsibilities to safeguard sensitive information (in the case of security clearances) or physical security procedures (in the case of sensitive items such as weapons, NODs, etc.).

We believe that this approach will be successful in preparing future leaders to accept an officer's responsibilities of providing for the health, welfare, and training of subordinates. We also believe that this applies to a broad spectrum of people who might benefit by reflecting on the proposed ideas. And finally, we hope that this approach might plant a seed of caution that will resonate deep in a soldier's conscience if they tend toward any risky behavior.

#### PROTECT THE FORCE!

POC: Robert W. Madden LTC, FA Regimental Tactical Officer, 4th Regiment, United States Corps of Cadets Work: (914) 938-2028/2826 Fax: (914) 938-7904





Regulations and laws govern your actions If you drink, think ... don't drive Soldiers don't drink in the field or on deployment Know your limit; stop before reaching it You can abstain and still have fun

Bedrock values! Violated most often by those impaired or drunk. Use the buddy system and have a designated driver Subordinates don't make good drinking buddies. If you drink, do it as the result of a deliberate decision. Never assume duty in an impaired state. Emotion and stress should not be medicated with alcohol. Soldiers don't drink to get drunk. Stay in control; sober is safe.

LEADERS MUST ASSESS RISKS AND TAKE APPROPRIATE ACTION

# Safety messages

he Following is a list of all ground precautionary messages(GPM) and maintenance advisory messages (MAM) issued by Tank-automotive and Armaments Command (TACOM) and Communications and Electronics Command (CECOM) for 3QFY97.

## **Tank-automotive and Armaments Command** (TACOM)

## **Ground Precautionary Messages (GPM):**

- AMSTA-IM-O, 021613Z May 97, subject GPM Control No. 97-03, M1 Abrams tank (NSN 2350-01-087-2445, LIN T13374) and M1A1 Abrams tank (NSN 2350-01-087-1095, LIN T13168). POCs: Ms. Berniece Dubay, DSN 786-8215 (810-574-8215); Mr. Raj Patel, DSN 786-6267 (810-574-6267); Mr. Pete Gray, DSN 793-1176; Ms. Maxine McDonald, DSN 793-4810; or Mr. Russell McBride, DSN 970-3731 (407-384-3731).
- AMSTA-IM-O, 141503Z May 97, subject GPM Contrl No. 97-04, Raea door bracket, (NSN 5340-01-158-0825); for all M992 (NSN 2350-01-110-4660, LIN C10908); M992A1 (NSN 2350-01-352-3021, LIN C10908); and M992A2 (NSN 2350-01-368-9500, LIN C10908); POCs: Mr. Randy McCauley, DSN 786-5308 (810-574-5308) or Mr. Leroy Bauer, DSN 786-6230 (810-574-6230).

### Maintenance Advisory Messages (MAM):

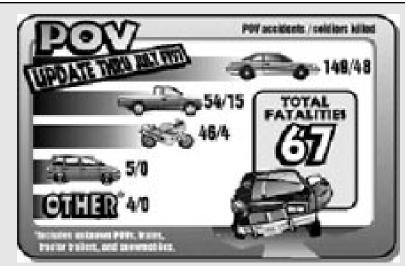
• AMSTA-IM-O, 221507Z Apr 97, subject: MAM Control No. MAM-97-005, Halon hand-held fire extinguishers on the Abrams family of vehicles (FOV), M1 (NSN 2350-01-061-2445, LIN T13374); IPM1 (NSN 2350-01-136-8730, LIN T13374); M1A1 (NSN 2350-01-087-1095, LIN T13168); M1Á2 (NSN 2350-01-328-5964, LIN T13305); POĆs: Mr. Art Drake, DSN 786-7389 (810-574-7389); Mr. J.

Wharton, DSN 327-7447 (703-607-7447); Mr. Ted Bozeman, DSN 367-5605 (404-464-5605) or Ms. Audrey Studevant, DSN 695-3756 (804-279-3756).

- AMSTA-IM-O, 051754Z May 97, subject: MAM Control No. MAM-97-006, Abrams FOV, M1 (NSN 2350-01-061-2445, LIN T13374); IPM1 (NSN 2350-01-136-8730, LIN T13374); M1A1 (NSN 2350-01-087-1095, LIN T13168); M1A2 (NSN 2350-01-328-5964, LIN T13305); PÓCs: Ms. Berniece Dubay, DSN 786-8215 (810-574-8215); Mr. Brad Voss, DSN 786-6049 (810-574-6049); or Mr. Tim Milanov, DSN 786-7895 (810-574-7895).
- AMSTÀ-IM-O, 052009Z Jun 97, Subject: MAM Control No. MAM-97-007, 2½ Ton parking brake preventive maintenance checks and service (PMCS) check, for 2½ ton tactical vehicles:POCs: Mr. Allan Lundie, DSN 786-6523 (810-574-6523) or Ms. Alice Maksymowicz, DSN 786-8501 (810-574-8501).

## **Communications and Electronics Command Ground Precautionary Messages (GPM):**

- AMSEL-SF-SEP, Subject: GPM (GPM-97-007), All equipment utilizing two or more BA-5590/U Lithium Sulfur Dioxide batteries, POC: Mr. Dave Kiernan, DSN 992-0084, ext. 6447.
- AMSEL-SF-SEC, Subject: GPM (GPM-97-008), Electronic shop AN/ASM-189 (LIN H01855) and AN/ASM-190 (LIN H01857), POC Mr. Wil Vega, DSN 992-0084, ext. 6407.
- AMSEL-SF-SEP, Subject: GPM (GPM-97-009), BA-5112/U battery, nonrechargeable, (NSN 6135-01-235-4168), POC Mr. Philip Klimek, DSN 992-0084, ext. 6437.
- AMSEL-SF-SEP, Subject: GPM (GPM-97-010), Ungrounded Motorola MMT-1500 (STU III) W/DNVT Module, (NSN 5810-01-408-0224), POC Mr. Joe Cocco, DSN 992-3112, ext. 6436 ♦





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Burt S. Tackaberry

Brigadier General, USA Commanding